



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,870	12/04/2003	Jorge E. Lopez de Cardenas	68.0425	7870

35204 7590 05/18/2007
SCHLUMBERGER RESERVOIR COMPLETIONS
14910 AIRLINE ROAD
ROSHARON, TX 77583

EXAMINER

COLLINS, GIOVANNA M

ART UNIT	PAPER NUMBER
----------	--------------

3672

MAIL DATE	DELIVERY MODE
-----------	---------------

05/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/727,870

Applicant(s)

LOPEZ DE CARDENAS ET AL.

Examiner

Giovanna M. Collins

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-7 is/are allowed.
- 6) ☒ Claim(s) 8-27 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 8-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tubel 6281489 in view of McCoy 5117399.

Referring to claims 8, 11, 22-23, and 27, Tubel discloses a method for optimizing production comprising using measurements from different sensors including bottomhole flowing pressure sensors (see col. 3, lines 28-30) and pressure sensors can be used to measure reservoir pressures in a well in real time (see col. 4, lines 1-20). Tubel does not specifically disclose comparing the bottomhole flowing pressure and the reservoir pressure to determine an underbalance and adjusting the bottomhole pressure to maintain the level of underbalance in proximity to a maximum underbalance. McCoy teaches that an underbalance between the bottomhole flowing pressure and the reservoir pressure needs to be maintained at a certain level in order to obtain the maximum production from a well (col. 1, lines 42-43). As it would be advantageous to obtain the maximum production from a well it would be obvious to one of ordinary skill in the art at the time of the invention to modify the method disclosed by Tubel to sense bottomhole flowing pressure and the reservoir pressures and comparing the

Art Unit: 3672

bottomhole flowing pressure and the reservoir pressure to determine an underbalance and adjusting the bottomhole pressure to maintain the level of underbalance in proximity to a maximum underbalance in view of the teachings of McCoy.

Referring to claims 9-10, Tubel discloses continuously or periodically sensing the bottomhole flowing pressure and the reservoir pressure (col. 1, lines 31-35).

Referring to claim 12-15,17 and 19-20, Tubel disclose automatically adjusting the pressure with a valve, choke or artificial lift mechanism (col. 3, lines 45-55).

Referring to claim 16, Tubel discloses (figs. 2-3) a system for optimizing production comprising a completion deployed in a wellbore having a flow control device (fig. 2, at 114, and fig. 3, at 214) to control the rate at which a fluid is produced in the well, using a reservoir pressure sensor (see col. 4, lines 1-20) and a bottomhole flowing pressure sensor (see col. 3, lines 28-30). Tubel does not disclose a stability envelope to maintain a level of underbalance in proximity to a predetermined optimal underbalance. McCoy teaches that an underbalance between the bottomhole flowing pressure and the reservoir pressure needs to be maintained at a certain level (stability envelope) in order to obtain the maximum production from a well (col. 1, lines 42-43). As it would be advantageous to obtain the maximum production from a production well, it would be obvious to one of ordinary skill in the art at the time of the invention to modify the method disclosed by Tubel to use bottomhole flowing pressure and the reservoir pressures sensors in a production well and have a stability envelope to maintain a level of underbalance in proximity to a predetermined optimal underbalance in view of the teachings of McCoy.

Referring to claims 18 and 21, Tubel discloses a computerized controller (fig. 2, at 142, fig. 3 at 242) to receive signal from the sensors and automatically adjust the flow control mechanism to adjust the bottomhole flowing pressure.

Referring to claims 24-26, Tubel discloses suspending a tubing (108 or 218) with a flow control mechanism (114 or 214).

Allowable Subject Matter

3. Claims 1, and 3-7 are allowed.
4. Claim 28 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 12/22/06 have been fully considered but they are not persuasive. In response to applicant's arguments that the reservoir sensors in a injection well disclosed by the Tubel reference do not suggest real time comparing or monitoring reservoir pressure and bottom hole flowing pressure during production. However, the applicant is that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Tubel reference discloses using a reservoir pressure sensor and McCoy provides a teaching for using the reservoir

Art Unit: 3672

pressure sensor in a production well (to maintain an underbalance between the bottomhole flowing pressure and the reservoir pressure needs in order to obtain the maximum production from a well, col. 1, lines 42-43).

The applicant argues the McCoy reference teaches against adjusting the bottom flowing pressure and veers away from the application to avoid sanding and other formation degradation. However, as the reservoir pressure changes the bottomhole pressure has to be changed in order to keep the underbalanced in effect. The argument that application's approach avoids sanding and other formation degradation is moot because this limitation is not recited in the claims.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3672

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna M. Collins whose telephone number is 571-272-7027. The examiner can normally be reached on 6:30-3 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gmc
gmc


David Bagnell
Supervisory Patent Examiner
Technology Center 3670